What we do and why
INEX Member Meeting

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What is Euro-IX?

Membership organisation for IXPs

• Two fora per year
• Developing a new website, database and tools
• Various reports:
  • Benchmarking club
  • IXPs stats
  • Traffic at IXPs
  • Switches and Route Server at IXPs
• Support Programs
  • Fellowship
  • Mentor-IX
Talk to us and each other

- Interested in IXPs, join the open discussion mailing list [https://lists.ix-f.net/mailman/listinfo/tech-discuss](https://lists.ix-f.net/mailman/listinfo/tech-discuss)
- Newsletter – Subscribe here:
  - [euro-ix.net/news-and-events/newsletter/](https://euro-ix.net/news-and-events/newsletter/)
- Working Groups
- Social Media
  - Twitter @euroix
  - Facebook [fb.me/maineuropix](https://fb.me/maineuropix)
  - YouTube [youtube.com/channel/UCFyucVRAAMzxyJIsxnGwsjw](https://youtube.com/channel/UCFyucVRAAMzxyJIsxnGwsjw)
Association / Club for IXPs

84 affiliated IXPs:

• 56 IXPs from Europe - 49 Countries, operating over 100 Peering LANs
• 28 IXPs from the rest of the world
• Newest Members:
  Digital Realty
  Beirut-IX
13 Patrons in 2017

- Arista
- Brocade
- Ciena
- Coriant
- ECI Telecom
- Equinix
- Extreme Networks
- Huawei
- Interxion
- Juniper Networks
- MRV
- Nokia
- Telehouse
The Internet eXchange Federation (IX-F) is a platform for affiliated Internet eXchange Point Associations (IXPAs) to share best practice and establish parity in internet accessibility and functionality on a global scale.

IXPAs members of IX-F include:

- AFIIX – Africa
- APIIX – Asia Pacific
- Euro-IX – Europe
- LAC-IX – Latin America & Caribbean

Representing over 200 IXPs around the world
IXP Database & Tools
IXP Database & Tools

• With the growing number of networks moving to automate more and more operational tasks the Euro-IX community decided we needed to have a trusted, reliable, accurate and complete database on IXPs

• Under construction under a Internet eXchange federation (IX-F) Project

• Goal is to build a global comprehensive database on IXPs
IXP Database & Tools

- Key Features:
  - A central source of comprehensive data on IXPs including:
    - essential contact information, name, emails
    - connected IP Addresses and ASNs
    - connected MAC Addresses
    - port speeds
    - traffic levels
    - switch capacity
    - hardware brands
    - software services
    - facility information
    - and more…
IXP Database & Tools

- Direct data export from IXPs via:
  - IXP Manager
  - APIs

- Integration of third party data:
  - PeeringDB – data center & network
  - RIRs - whois
  - IRR - whois

helps to provide a comprehensive view of the interconnection ecosystem and encourages data clean-up by increasing its visibility.
IXP Database and Tools

• IX-F Member List:
  • Currently contains ASNs (IXP member list)
  • Building a new schema to be able to import more data
  • Human readable tools and resources to help access and analyze the data

• Source available on GitHub; https://github.com/euro-ix/json-schemas

• IXF Member List Directory - http://ml.ix-f.net
IXP Database & Tools

Benefits Case:

- Access to trusted real-time data which can be used directly or via other systems to:
  - make informed network strategy decisions
  - generate configurations for routers
  - be used for other purposes related to peering and network management.
- No manual input, reduces human error
- Provides insight into regional trends and enhancements
- Encourages IXPs to follow best common practices (BCPs)
- Multiple IXP data is available from a single source (API) in a standard format
- Promotes innovation to increase automation
IXP Database & Tools

Where are we?

- IXP Manager has a built in export to the database
  - Currently 51 IXP use IXP Manager
    - 25 in Europe
    - 26 rest of the world
- Encouraging IXPs to use IXP Manager – especially new/smaller ones
- Planned IXP Manager tutorial at APRICOT 2018 & Euro-IX fora
- Looking to create videos/online learning tools for IXPs wanting to do it themselves
- Larger IXPs already have APIs in place - https://db.ix-f.net/api/ixp

Database will go live in February, along with a new Euro-IX website!
Euro-IX Projects
Route Servers

• Draft for route server large communities document on GitHub -

• Route server features list
Spamhouse Issues

Issues with Spamhouse blocking IXP internal IPs

• Spamhouse asked some Euro-IX members to disconnect some networks they believed to be spammers or have customers who engage in spam

• We acknowledge the damage that Spam and related abuse does

• Spamhaus has black-listed IXP mail servers, which causes communication issues between IXP operators and its participants

• Engaged with Spamhouse and looking at next steps how we can work together to stop this happening again.
Euro-IX Reports

37/ Do you currently use Route Servers?
30 responses, Yes (24), No (6)

- 80% Yes
- 20% No

41/ If you use Route Servers, which one do you use?
30 responses, with 3 listing more than one daemon

- 64% BIRD
- 12% Quagga
- 9% OpenBGPD
- 6% Cisco
- 9% Other

52/ By what method do you receive the most service requests?
Multiple responses, Email 29, Telephone 13, Website 3, Others 5 (IRC 2, Facebook, Twitter, Skype)

- Email: 29
- Telephone: 13
- Website Portal: 5
- Other: 3
- 30 total responses
56/ Do you have any of the following types of members/customers at your exchange?
281 responses, multiple answers per IXP

- Content providers: 28
- Academic Networks: 27
- Access Providers: 27
- Dedicated hosting providers: 27
- Mobile Operators: 27
- CDNs: 23
- Governmental: 23
- Dedicated VoIP providers: 16
- Enterprises: 16
- Gaming companies: 16
- Search engines: 16
- eCommerce companies: 11
- Other IXPs: 10
- 'Adult' hosting company: 6
- Gambling companies: 5
- Other: 3
Fellowships & Mentor-IX

Programs to support IXPs

- 28th Forum, one fellow Nico Tshintu Bakajika, KINIX (DRC)
- 29th Forum, two fellows, Mauricio Oviedo, CRIX (Costa Rica) and Leonard Obonyo KIXP (Kenya)
- 30th Forum, five fellows, Mauricio Oviedo, CRIX, Fabian Mejia, NAP.ec, Nico Tshintu Bakajika, KINIX, Ahmed Bakhat Masood, PKIX and Leonard Obonyo, KIXP

Further information about the fellowship can be found - https://www.euro-ix.net/ixps/support-ixps/fellowship-program/

Thanks to Sponsors DE-CIX, RIPE NCC, ISOC, INEX, FICIX and InterLAN
Internet Revealed, a film about IXPs

https://www.youtube.com/channel/UCFyucVRAAMzxyJIsxnGwsjw
Available in French, German, Portuguese, Italian, Spanish, Romanian, Arabic, Russian, Czech, Greek, Mandarin and Japanese!
Interested in translating the video in your Language? Contact us!
PeeringDB Update
What is PeeringDB?

**Mission statement:** “PeeringDB, a nonprofit member-based organization, facilitates the exchange of user maintained interconnection related information, primarily for Peering Coordinators and Internet Exchange, Facility, and Network Operators.”

- A PeeringDB record makes it easy for people to find you, and helps you to establish peering.
- If you aren’t registered in PeeringDB, you can register at [https://www.peeringdb.com/register](https://www.peeringdb.com/register).
- We use basic verification for new accounts and require current whois information, so please
  - Update and maintain your whois information
  - Register from a company email address.
PeeringDB – New features

- Facilities and exchanges can now update their own info
  - Networks are still required to associate their record at a facility or exchange
- Multiple records of any type can be associated with an organization
  - Simpler organization management with a single account for network, facility, exchange records
- One account can manage multiple organizations
  - Manage all of the things with a single account
- Users can manage their accounts
  - Admin account for an organization can delegate fine-grained permissions
- Contact info has permissions
  - Private/users/public permissions
  - All users must register, no more guest account
  - Public view can see all info except contact info (no login needed)
- APIs and local database sync
  - Sync PeeringDB to a local database in any engine format
# PeeringDB Committees

<table>
<thead>
<tr>
<th>Admin Committee</th>
<th>Operations Committee</th>
<th>Product Committee</th>
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<tbody>
<tr>
<td>Manage administration of user accounts and PeeringDB records</td>
<td>Manage PeeringDB infrastructure</td>
<td>Ask for input from the community on desired features</td>
</tr>
<tr>
<td>Answer support tickets</td>
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<td>Manage roadmap and development priorities</td>
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<td>Write SoWs to solicit bids to complete requested features</td>
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**Leads:** Arnold Nipper (Chair) and Bijal Sanghani (Vice Chair)  
Contact: [admincom@lists.peeringdb.com](mailto:admincom@lists.peeringdb.com)

**Leads:** Job Snijders (Chair) and Aaron Huges (Vice Chair)  
Contact: [pdb-ops@lists.peeringdb.com](mailto: pdb-ops@lists.peeringdb.com)

**Leads:** Eric Loos (Chair) and Matt Griswold (Vice Chair)  
Contact: [productcom@lists.peeringdb.com](mailto:productcom@lists.peeringdb.com)
Information & Resources

- Announce list: [http://lists.peeringdb.com/cgi-bin/mailman/listinfo/pdb-announce](http://lists.peeringdb.com/cgi-bin/mailman/listinfo/pdb-announce)
- Governance list: [http://lists.peeringdb.com/cgi-bin/mailman/listinfo/pdb-gov](http://lists.peeringdb.com/cgi-bin/mailman/listinfo/pdb-gov)
- Technical list: [http://lists.peeringdb.com/cgi-bin/mailman/listinfo/pdb-tech](http://lists.peeringdb.com/cgi-bin/mailman/listinfo/pdb-tech)
- User Discuss list: [http://lists.peeringdb.com/cgi-bin/mailman/listinfo/user-discuss](http://lists.peeringdb.com/cgi-bin/mailman/listinfo/user-discuss)
- Docs, presentations, guides, tools: [http://docs.peeringdb.com/](http://docs.peeringdb.com/)
- Board and Officers: [stewards@lists.peeringdb.com](mailto:stewards@lists.peeringdb.com)
- Admins: [support@peeringdb.com](mailto:support@peeringdb.com)
- Presentation requests: [productcom@lists.peeringdb.com](mailto:productcom@lists.peeringdb.com)
- Uptime status: [http://status.peeringdb.com/](http://status.peeringdb.com/)
- Bugs and feature requests: [https://github.com/peeringdb/peeringdb/](https://github.com/peeringdb/peeringdb/)
- Social media
  - Twitter: [@PeeringDB](https://twitter.com/PeeringDB)
  - Facebook: [https://www.facebook.com/peeringdb/](https://www.facebook.com/peeringdb/)
  - LinkedIn: [https://www.linkedin.com/company/peeringdb](https://www.linkedin.com/company/peeringdb)
Thank you!

Bijal Sanghani